

Division 3. Air Resources Board

Chapter 9. Off-Road Vehicles and Engines Pollution Control Devices

Article 4.7. Spark-Ignition Marine Engines

§ 2442. Emission Standards.

(a) Exhaust emissions from new spark-ignition marine engines manufactured for sale, sold, or offered for sale in California, or that are introduced, delivered or imported into California for introduction into commerce must not exceed the hydrocarbon plus oxides of nitrogen (HC+NO_x) exhaust emission standards listed in Table 1 during its designated useful life:

Table 1.

Corporate Average Emission Standards by Implementation Date
HC+NO_x (g/kW-hr)

<i>Model Year</i>	<i>Max. Family Emission Limit (FEL)</i>	<i>P_{tx} < 4.3 kW</i>	<i>P_{tx} ≥ 4.3 kW</i>
2001	Not Applicable	81.00	(0.25 x (151+557/P _{tx} 0.9))+6.0
2004	80	64.80	(0.20 x (151+557/P _{tx} 0.9))+4.8
2008	44	30.00	(0.09 x (151+557/P _{tx} 0.9))+2.1

where:

P_{tx} is the average power in kW (sales-weighted) of the total number of spark-ignition marine engines produced for sale in California in model year x. Engine power must be calculated using the Society of Automotive Engineers (SAE) standard J1228, November 1991, incorporated herein by reference. Engine manufacturers must not determine P_{tx} by combining the power outputs of outboard engines with the power outputs of personal watercraft engines.

(b) An engine manufacturer may comply with the standards directly on an individual engine family basis. Consequently in Table 1, FELs are not applicable for any model year and P_{tx} means the average power in kW (sales-weighted) of the subject engine family produced for sale in California in model year x.

Compliance with the standards on a corporate average basis is determined as follows:

$$\frac{\sum_{j=1}^n (\text{PROD}_{jx})(\text{FEL}_{jx})(P_{jx})}{\sum_{j=1}^n (\text{PROD}_{jx})(P_{jx})} = \text{STD}_{ca} \quad n$$

where:

n = total number of engine families (bycategory)

PROD_{jx} = number of units of each engine family j produced for sale in California in model year x.

FEL_{jx} = the Family Emission Limit (FEL) for engine family j in model year x, which must be determined by the engine manufacturer subject to the following conditions: (1) no individual engine family FEL shall exceed the maximum allowed as specified in Table 1; (2) no engine family designation or FEL shall be amended in a model year unless the engine family is recertified; and (3) prior to sale or offering for sale in California, each engine family must be certified in accordance with the test procedures referenced in section 2447 and must meet the engine manufacturer's FEL as a condition of the Executive Order. Before certification, the engine manufacturer must also submit estimated production volumes each engine family to be offered for sale in California.

P_{jx} = The average power in kW (sales-weighted) of engine family j produced for sale in California in model year x. Engine power must be calculated using SAE standard J1228, November 1991, incorporated herein by reference.

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STDca = An engine manufacturer's calculated corporate average HC+Nox exhaust emissions from those California spark-ignition marine engines subject to the California corporate average HC+ exhaust emission standard determined from Table 1, as established by an Executive Order certifying the California for the model year. This Executive Order must be obtained prior to the issuance of certification Orders for individual engine families for the model year.

(1) For purposes of compliance under this paragraph, engine manufacturers must not corporate average outboard engine families in combination with personal watercraft engine families.

(2) During the engine manufacturer's production year, for each engine family, the engine manufacturer shall provide the Executive Officer within 45 days after the last day in each calendar quarter the total number of spark-ignition marine engines produced for sale in California and their applicable FEL(s).

(3) The Executive Order certifying the California production for a model year must be obtained prior to the issuance of certification Executive Orders for individual engine families for the model year.

(4) The engine manufacturer's average HC+NOx exhaust emissions must meet the corporate average standard at the end of the engine manufacturer's production for the model year. At the end of the model year, the manufacturer must calculate a corrected corporate average using sales or eligible sales rather than projected sales.

(5) Production and sale of spark-ignition marine engines that result in noncompliance with the California standard for the model year shall cause an engine manufacturer to be subject to: revocation or suspension of Executive Orders for the applicable engine families; enjoinder from any further sales, or distribution, of such noncompliant engine families, in the State of California pursuant to section 43017 of the Health and Safety Code; and all other remedies available under Part 5, Division 26 of the Health and Safety Code. Before seeking remedial action against the engine manufacturer, the Executive Officer will consider any information provided by the equipment manufacturer.

(6) For each model, the engine manufacturer shall submit California sales data ninety (90) days after the end of the model year.

(c) The test equipment and test procedures for determining compliance with these standards are set forth in Parts III and IV, respectively, of the "California Exhaust Emission Standards and Test Procedures for 2001 and Later Spark-Ignition Marine Engines" ("Test Procedures"), adopted October 21, 1999, which are incorporated by reference herein.

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018, 43101, 43102 and 43104, Health and Safety Code. Reference: Sections 43013, 43017, 43018, 43101, 43102, 43104, 43105, 43150-43154, 43205.5 and 43210-43212, Health and Safety Code.

REFERENCE